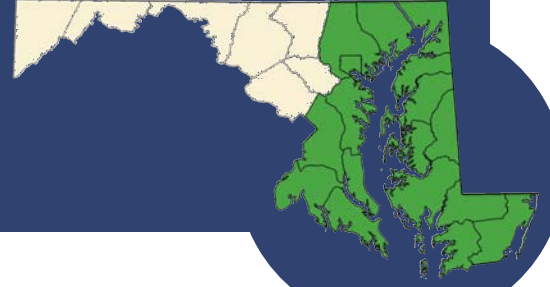


Watershed Restoration Action Strategies

Maryland Coastal Program



The Issue...

Human impacts influence Maryland's coastal zone in numerous ways. These include increased growth, conversion of land to development, and a variety of point and nonpoint source pollution problems. Because of the wide range of issues facing the State and the cumulative nature of their effects, it is important to use a comprehensive approach to management. Maryland's waterways already show signs of degradation from cumulative and secondary impacts. These can be seen in high nutrient loads, loss of habitat and excess sedimentation. In 1998, the Maryland Clean Water Action Plan identified 43 watersheds within the coastal zone in need of priority restoration. In addition, 21 watersheds (including some of the 43 noted above) were identified to be in need of protection and preservation.

The State's Involvement...

The challenge of reducing nutrient loads, and other pollutants entering Maryland's waterways, has been quantified and articulated in numerous local, state and federal sectors. A variety of programs take a watershed approach to reducing nutrient loads and provide valuable broad-based, generalized information regarding pollution loads, sources, impairments, and goals at various watershed scales. The Watershed Restoration Action Strategies (WRAS) Partnership Program, established in 2000, by the Maryland Department of Natural Resources, is one of the State's most foremost efforts to utilize an integrated approach to watershed protection and restoration.

The WRAS Program is a multi-year, multi-agency program focused on the comprehensive design and implementation of water quality and habitat improvement activities on a local watershed scale. The WRAS Program builds upon the 1998 Federal Clean Water Action Plan, which proposed an expanded collaborative effort by state, federal, and local governments, the private sector, and the public to address all aspects of watershed health. The Maryland Coastal Program and the State's Nonpoint Source Pollution Control Program (Clean Water Act §319) jointly fund the development and implementation of WRAS's.

A completed WRAS is a work plan based on an assessment of natural resource conditions and scientific monitoring data, including:

- A *Characterization Report* that includes a summary of readily available natural resources information on water quality, land use and cover, living resources, and habitat.
- A *Synoptic Survey* conducted by the Maryland Department of Natural Resources that contains both a water chemistry analysis (nutrients, temperature, conductivity, pH), and a biological survey (macro invertebrates, fishes, habitat) on 30 - 80 sites along stream corridors within the watershed.
- A *Stream Corridor Assessment* that examines and assesses 100 miles of streams within the watershed for problems such as pipe outfalls, erosion sites, lack of buffers, fish passage blockages, sewer outfalls, or unusual conditions. Each site is rated for accessibility, severity, and correctability.

The final report identifies the most important causes of water pollution and resource degradation, and details actions, as well as responsible parties, to address needed monitoring, gaps in information, mitigation options, and restoration and protection opportunities. The final report also provides milestones for measuring success.

The Coastal Program's Role...

Maryland's Coastal Program was a critical partner in the development of the WRAS Partnership Program and continues to work with local governments, state agencies, and universities to develop and implement watershed strategies. By providing a staff liaison to assist and coordinate local and state level planning activities; discretionary funds to local governments; and, support for scientific and technical data acquisition, the Coastal Program has enabled 13 local governments to develop successful WRAS planning partnerships.

Significant Accomplishments...

Isle of Wight Watershed Restoration Action Strategy: In 2000, the Coastal Program funded and participated in an effort with Worcester County to develop the *Isle of Wight Watershed Restoration Action Strategy*. The 74 square mile Isle of Wight watershed contains Worcester County's most intense development, substantial water and land-based recreational assets, and over 24,000 acres of productive forest and farmland. The goal of the WRAS was to protect the watershed assets and provide for their appropriate use in order to maintain the County's quality of life and economic future. The Isle of Wight WRAS fulfilled a necessary prerequisite to implement several of the actions contained in the Comprehensive Conservation and Management Plan for Maryland's Coastal Bays (1999). The goal of the *Isle of Wight WRAS* was to accommodate growth in a way that minimizes its impact and enables the watershed to continue as an excellent place to live, play and earn a living.

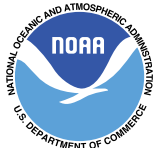
As a result of the WRAS, essential information was readily available to Worcester County staff in developing their Critical Area Program after the passage of the *Atlantic Coastal Bays Protection Act*. In the immediate future, three large stormwater drainage ditches will be converted into a combined nontidal and tidal wetlands area due to recommendations in the plan, and other tidal wetland restoration projects are now being planned. With funds from the Coastal Program, efforts are now underway to develop watershed strategies for three more subwatersheds, the Newport, Sinepuxent and Chincoteague Bay watersheds.

Bush River Watershed Restoration Action Strategy: The Bush River watershed contains more than 520 miles of stream, is over 117 square miles in size, and makes up over 25% of Harford County's land base. Over the last several years, there has been significant effort to assess and improve the overall health of both the tidal and non-tidal portion of the watershed. The WRAS process provided a framework for the consolidation of these efforts. The Coastal Program worked with Harford County Department of Public Works, Office of Planning and Zoning, and County Health Department, as well as the Otter Point Creek Component of the Maryland National Estuarine Research Reserve, to develop a WRAS for the Bush River Watershed. The Bush River Watershed Management Plan was finalized in April 2003.

Highlights of the Watershed Management Plan, prepared by the Center for Watershed Protection, include general management practices to improve watershed conditions; specific high quality subwatersheds that should be evaluated for future protection; specific impacted subwatersheds that present opportunities for stormwater retrofits; and management approaches to both rural and urban subwatersheds that promote and encourage public awareness and involvement.



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